



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

# WORK AND PAY: A SUGGESTION FOR REPRESENTATIVE GOVERNMENT IN INDUSTRY<sup>1</sup>

## SUMMARY

I. The determination of work; job analysis, 242. — The several parties concerned in job analysis, 243. — A Determining Board representative of these parties, 244. — Length of working day, 245. — II. How much pay? 247. — Payment for risk to capital, 248. — Workers also assume risk, 249. — Other elements of cost; interest and dividends, 250. — Depreciation, cost of materials, 251. — This procedure the reverse of that usually followed, 252. — Salaries and wages the residuum, 253. — Wages settled by the Wage Board, 254. — Risk likely to be more frankly considered, 256. — Summary and conclusion, 257.

THE conflict in industry today centers about two distinct, altho closely related, problems — the determination of a reasonable day's work and of a reasonable day's pay; each of which can be adequately stated only when viewed in the light of the other. Reduced to simplest terms, the two-fold question is this: first, how can we determine a satisfactory day's work from the point of view of health and productivity; secondly, on the basis of such a determination of daily achievement, what shall be the pay for it? An intelligent attack on these problems involves: (a) the obtaining and use of

<sup>1</sup> The major part in the preparation of the first draft of this paper was taken by Mr. Valentine, whose much lamented death, November 14, 1916, prevented collaboration on his part in its revision. The idea of separating the two fundamental problems — work and pay — was his; and it was he who suggested the establishment of two distinct boards, a Determining Board and a Wage Board. His experience as Director of the Joint Board of Protocol Standards of the Dress and Waist Industry of New York City had strengthened his faith in the essential principles involved, and he had submitted to the employers and the union in that industry recommendations based on them.

ORDWAY TEAD.

data from exhaustive, objective studies of definite jobs; and (b) the creation of certain forms of organization which, in the conclusions based on such studies, will register the interests and attitudes of all concerned.

### I. THE DETERMINATION OF WORK

To identify all the elements working immediately and potentially to determine what a given job and the attendant conditions are and shall be, requires intensive study. To such research the name "job analysis" is here given. We shall use it throughout this discussion as meaning the exhaustive statement of every item involved in a piece of work itself and in its relations to other jobs in the organization where it exists, with especial emphasis on the effect of work upon the worker.

Job analysis includes time study, motion study, fatigue study. It embraces all the complex facts of working conditions, such as labor legislation; labor turnover in the given plant and in the industry as a whole; competence of management; living provisions — in short, all the many factors which affect the job and the worker. The job analyst makes a study of "job ratios" — i. e., as accurate an estimate as possible of the comparative difficulty, disagreeableness, and need of dexterity inherent in the specific piece of work. By estimating the maximum amount which the best worker or workers might achieve under the best conditions, job analysis establishes a tentative standard of output, and against this standard grades the workers of varying degrees of skill and estimates the relative amounts of output which can in all fairness be expected from them under actual conditions. This sketch of job analysis, its purpose and possibilities, will suggest some

of its significant values and uses. To know what the elements of a job are, must always be the first step toward determining whether the particular piece of work is necessary, how it affects the worker, and what degree of skill and endurance it requires.

Job analysis, like time study,<sup>1</sup> cannot, however, be entrusted to employers alone. For, in the light of the analysis, redefinitions of work and readjustments of methods may seem urgent of adoption which are so radical in character, so far-reaching in results, that their introduction can only be made with safety to the worker when his judgment on the matter is utilized and his consent secured. The worker must have protection. In the long run this protection cannot be furnished by someone else. One's interests can be permanently and satisfactorily safeguarded only by one's self or one's accredited representative. Without this self-protection trouble is bound to arise sooner or later. It is only a question of time when the unprotected or the employer-protected worker is either stirred to revolt or drained of energy, vitality, and self-respect.

This being the case, we face the second part of our first problem, which is to suggest the forms of organization necessary to voice the worker's interests where job analysis is adopted. Once known, the interests not only of the workers but of all can be drawn into the open and assured an adequate voice in making decisions in matters affecting them.

What, then, are the several interests in an organization which actually if not avowedly participate in these decisions about the statement of jobs? In general terms, are they not the following? 1. The management whose interest is obvious since it is responsible for

<sup>1</sup> See articles by Robert F. Hoxie, "Why Labor is Opposed to Scientific Management," *Quarterly Journal of Economics*, November, 1916, and Robert G. Valentine, "The Human Element in Production," *American Journal of Sociology*, January, 1917.

administration and output. 2. The employees as a whole, who have a vital interest, since no job can be defined without taking from or adding to the responsibilities of some other positions in the organization. 3. The workers at the particular process, who inevitably have a great interest in its correct statement. 4. Whatever agency has conducted the actual scientific research and drawn up the tentative job analysis. (Where a factory organization has undergone a logical development, such analysis would be the special research function of the personnel department.)<sup>1</sup>

It is not denied that other factors might conceivably enter into the determination of work, but practically these four groups are the indispensable parties to the final agreement as to what any particular job actually is. In short, the management, the employees as a whole, the workers at the task in question, and the research division are the first court in work decision. They constitute a Determining Board to determine every job.

It is unnecessary in a preliminary study like the present to do more than suggest the relation which this shop organization might have to existing organizations of workers by crafts or industries. It would naturally follow, however, that if there were a craft union of workers at a certain job, this union might be called in to represent the workers, either in a mediatory capacity or to be one party to arbitration proceedings in which the third and outside participant would be a representative of the consumers, or public. In those extreme cases where differences proved incapable of immediate amicable settlement, the union would be the natural

<sup>1</sup> This reference to the research division as well as the subsequent mention of the employment division, assumes the existence of a Personnel Department in an industrial organization. The purpose of this staff department is to handle all matters that affect the workers. A competent department would include (1) the employment division, (2) the training division, (3) the research division.

organization to conduct a strike. In the same way, an industrial union representing all the workers of an industry might be called into action where disagreements assumed an industry-wide character. The ultimate necessity for this outside affiliation has already been met by a similar wider affiliation among employers not only by industries but between industries. As issues become more extensive there would be a representative body of all workers and of all employers in an industry, as well as the public's delegates, to settle the most momentous disagreements. It needs hardly to be pointed out that this alignment makes an actual resort to strikes far less likely, because their reason for being is so largely removed.

The important point is to have justified the logic and validity of the internal Determining Board, with its opportunity for outside appeal if that becomes necessary in order to protect the rights of any of the parties.

Assuming now that the Determining Board is established, what are its functions ? At any particular job there is a certain length of the work day, within which it is more or less definitely ascertainable that a person can work at a certain general rate of speed (varying from hour to hour and day to day and to some extent from season to season, but still running through the year at a fairly level average) without any question of physical or mental deterioration arising. Within this healthy working day, whatever it may be, it is obvious that slovenly, slipshod or slow work on the part of the worker who could work faster without exceeding the limits of physical and mental health, is against the interest of the employee from the point of view of both his own skill and self-respect, to say nothing of the ultimate lessening of his earnings due to low production. From the point of view of his costs such poor work is against the

interests of the manufacturer. From the point of view of the character of the individual and of the economic cost of the product, it is against the interests of society. It is very decidedly to the advantage of everybody — worker, employer, consumer — that once the length of the work day and a safe speed of work are agreed upon, each should see to it that a full day's work is done. Upon this point a substantial identity of interest exists.

If the time comes when a reduction of hours is demanded below this agreed length of work day, then indeed opposing interests come into play — of the workers, of the management, and of society. To adjust this conflict of interests will require one of the three available methods — conciliation, arbitration (i. e., adjudication by a third party) or the use of the strike. But for the near future this is not the critical problem. Our anxiety is not yet over workers who may be declaring for a seven-hour day. The great majority of nine, ten, and eleven hour a day toilers demand profound and immediate concern.

The point of contention, owing to meager knowledge and inadequate scientific technique, is as to what *is* a reasonable length of work day and safe intensity of work. The determination will depend upon almost infinite variables between factory and factory and industry and industry, as well as between worker and worker. In many cases a combination of studies of past production records and time studies will eventually give the standards of an operation in point of required time and safe speed. As modifying these there must be intensive study of the influence on the job of accident and fire risks, of ventilation, heating, humidity, cleanliness, lighting, toilet and drinking water facilities, noise and vibration. One of the vitally important points in the four-fold representation for agreeing to the details

of a job is that in this way alone will these and other variables receive proper weight and recognition. But altho each party to the transaction is keenly alive to protect his own interests, this is far from involving a hopeless conflict. The findings of the research division as to the facts about a job afford a definite starting point. To the extent that exact knowledge is at hand, possible disagreement is reduced. Even so, the field where judgment and opinion obtain will still be large. It will remain for the Determining Board out of the many-sided experience of its members to give weight to the variables in such a way as to insure that the final statement of a piece of work is as honest a one as human intelligence can secure.

## II. HOW MUCH PAY?

If we can now assume a knowledge of the fair average expectation of work from workers of varying degrees of skill, and assume that this work is agreed to by all parties and is performed, the question arises as to the basis upon which it shall be paid for. This involves a consideration of the factors which will throw light upon the financial affairs of the industry and individual plant.

We have first to survey the field of present practice and tendency in analysis of the factors recognized. What is the basis upon which the several claimants for a share of the gross income divide that income and should divide it?

There have in the last few years, been any number of so-called "advanced methods" of pay which aim at securing closer relation between efficiency and reward. The fundamental difficulty with them all is that the basis of each has been the "going rate of wages." To admit, as they do, that base rates equal "standard

rates in the district " or are some percentage more than such rates, is to throw away the case so far as any claim to scientific division of earnings goes. If the problem is to be faced through from the beginning, there must be consideration not only of present payment practices in industry but of the meaning and uses of an American standard of living.

It is admittedly confusing to try to deal with payment plans because of necessity present practice and possible future practice will have to be considered not as two distinct systems, but as one gradually being modified into another. It is our assumption in this discussion that the tendency toward larger, non-competing<sup>1</sup> producing units is desirable and that both state and nation will be required to increase control and regulation. If there is ultimately to be in business at large any such oversight as now prevails in the public utilities at the hands of the various public service commissions, we are in sight of more intelligent arrangements in which at the very least the cards of the owners and users of capital are on the table. The importance of this in the division of earnings will next be considered.

If we approach the problem from the angle of present practice, we must consider at once who assumes the risk in industrial operation. This must be considered because in stating the cost of production the extent of risk is in the last analysis the point which occasions greatest controversy.

Do the owners and borrowers of capital assume all the risk? Profits accrue to them today because it is conceived that they are the initiators, responsible agents, and, if necessary, the losers in industrial development. That this is true as a general proposition seems plausible.

<sup>1</sup> I. e., "non-competing" in the sense that they are not competing for *markets*.

And in certain fields, particularly in marketing new commodities, there is a risk that none but relatively few in the community are willing to assume; and the extension of industrial activities is at present wholly dependent upon their assuming it. But these cases can fairly be left out of consideration because of their relatively small number in proportion to the total production. Setting aside these exceptions, and viewing the problem as industry exists today — not as it has been developed but as it stands today — the extent to which investors and enterprisers in industry assume risk is a matter as to which each case must be considered separately. The risk is one thing in a highly competitive business where the demand is new and destined to rise; it is another in a monopoly; it is still another in a declining business doomed to disappear.

Moreover, the risk that the employees assume is by no means inconsiderable and is consistently ignored in most discussions of the subject. It frequently happens today that the capital owners or enterprisers have "more than one iron in the fire" and "their eggs are not all in one basket." Furthermore, the owners are in a position to wait for their returns. And, finally, they definitely plan to compensate themselves for bad years by the reserves and surpluses of good years. Not so the workers. Their eggs *are* all in one basket. They cannot wait long for their returns. They have little or nothing to tide them through bad years. They are expected to come for work where work is offered; work for little more than subsistence rates while it is offered; and get out when it is finished. Theirs is the greater risk in the sense that they put all their strength — their working capital — at the disposal of a given enterprise. Its success or failure is their livelihood or unemployment.

There appear, therefore, to be really two kinds of risk distinguishable by their consequences. To the capital provider the risk is a property one — usually a matter of only part of his holdings. To the manual worker it is a human one — a matter of personal and family sustenance.

It would probably be true that the extent of the capitalist's risk would depend in part upon the proportion of his total capital that was committed to one venture. And altho no technique has yet been developed for accurately establishing the extent of risk which he assumes, that does not mean that it is impossible. There have not yet been publicly available the data necessary to begin to formulate a method. Up to the present the best we have been able to do as consumers is to try to protect ourselves by a variety of means from claims for excessive risk-earnings. These means include, for example, publicity of certain corporation accounts, the taxation of unearned increments, of incomes, special privileges, franchises, royalties and patent rights.

The workers as distinct from the consumers will have to protect themselves by some other means such as we shall presently outline.

Leaving, for the moment, the question of the cost of risk, let us proceed to a summary of the other elements in production costs, since this offers the readiest method of arriving at a knowledge of the amount available for wage and salary earnings. The next point that arises — as to whether interest and dividends on capital shall be a cost charge or not — is one that is still a much mooted question in the accounting world. At least a part of the occasion for debate is that those who are getting high profits on the pretext of the great risk involved know that in many instances a careful analysis of their busi-

ness would justify the disbursement of earnings little if any above the current interest rate for that industry. In these instances, if the interest charge computed at the current rate for the industry were made one of the costs of the business, instead of being left as now a variable amount contingent upon the concern's profits, the surplus would be so large as to occasion a protest from consumers on the score of the high cost of the commodity and from the workers on the score of low wages. If, therefore, we are ever to get the conditions of a business clearly before us, the interest charges should be definitely limited, or be on an agreed sliding scale. This item should then constitute part of the cost. This means, of course, that so much of interest as is supposed to be a payment for risk will no longer figure as a part of interest, but will be treated separately on its merits, either as another item of cost or as one of the items to be met in the division of that residuum which we are about to arrive at.

The changes made for depreciation and for reserves may at any time become the subject of controversy. For these items also it is impossible to generalize as to what would be a fair allowance. But as long as amounts thus written off are publicly known the possibility of abuse is reduced.

The cost of raw materials is, so far as we are here concerned, a fixed item; as is also the charge for patent rights. A further cost, the importance of which is now being understood, is that necessary to keep working conditions up to a high human standard. This should include provision of the best contrivances in matters of sanitation, ventilation, prevention of fire, sickness and accident.

Finally, a knowledge of the selling price of the goods produced will enable us to find the amount which is left

to pay for the services of managers and manual workers and possible additional pay to the risk takers. The selling price depends, of course, upon many conditions. But in general, we know that the price at which an article will be sold is governed by the expectation of a certain demand for a certain amount of product. And in a well-established market the amount that can be sold and the prices at which it is possible to offer goods are both greatly limited.

We can, then, as a general proposition come to this conclusion: the amount left after deducting the above costs from gross income will give the amount that is left for division among the active agents, head and hand workers, in a business.

All this will, of course, seem a completely backhanded way of going at the problem to those familiar with the thesis that labor is to be bought in the cheapest market and that wages are one of the principal costs which the risk takers, as initiators of enterprise, must meet. Our procedure has completely reversed prevailing practice. But any consideration of the problem that is going to face every factor frankly, and most important of all, is going to give workers confidence in the rates that are set and consumers confidence in existing prices, will have to result in some such attitude toward the costs of production. For it is at this point, the discrepancy between the earnings of workers and owners, that the prevalent unrest is most acutely occasioned.

There is a growing tendency to consider the division of earnings on this ultimate basis. It does not mean that tomorrow any business can say definitely what its residuum is and sit down to haggle with employees over its distribution. But certain definite steps toward a more equitable arrangement can be at once taken by any company. It is clear that actual payments to workers

cannot be made only once a year, after the results of the year's business have become known. Weekly drawing accounts must be settled upon, and how the amounts of these can be arrived at is the next question. If at the end of a year there is still a net surplus after all these charges have been met, we have an amount which can be apportioned between workers and risk takers on a basis which will also have to be agreed upon.

How, then, to settle the amount due the president, the office boy, and the truck hand? Clearly the first duty will be to establish a minimum rate below which no worker will be paid. And this minimum must be set on a flexible scale in the light of a thoroly contemporary knowledge of a wholesome standard of living in the locality — a standard that includes all the elements that make for a progressive citizenship. In order to standardize throughout industry an approximately equal minimum basis, it is increasingly recognized that certain operating standards must be upheld by legislation. These standards seem destined to include a minimum wage, safe and wholesome working conditions, accident, sickness, and unemployment compensation, and, if necessary, a pension during old age.

If we can next get some notion of maximum salary, we are then left to the most trying problem — settling the amounts of earnings between the extremes. For some time to come it would seem that the law of supply and demand working to adjust earnings in the field of executive and administrative positions would not lead us very far astray. Able administrators are rare. Their value is appreciated more and more throughout the industrial hierarchy. Business owners and workers as well are showing themselves willing to pay what they must to get the right type of leadership. Moreover, the effect of publicity and the increasing influence of the

wage workers in these matters will be an invaluable corrective force.

As to the work of manual laborers themselves, present practices checked by thoro job analysis will give some rough indication of the relative value of the several tasks in a factory. Beyond that it would seem that the finer adjustments are subject to the indefinite pulling and hauling of several forces in an effort to establish a momentary equilibrium. A sense of humor must keep us from feeling any ultimate certainty or security in fixing one man's worth as so much and another's at a few cents more. This cannot be done on any absolute basis. But we can do the next best thing. We can get the interested parties together and let them thrash matters out with the financial and technical facts fully before them.

The same argument, therefore, seems to hold here that was advanced in the case of job determination. The several forces at interest in any decision must be represented in making it. There the matter to settle was the amount and quality of work; here it is the amount of pay for that work. The representative body that settles this question is called the Wage Board. It represents the managing interests, the workers as a whole, the workers at the particular operation, and the financial or capital owning interests, as distinct from those of management.

Whether the rate set be a week rate or a piece rate or some combination is a secondary point. Any of these may offer sufficient incentive and adequate yearly earnings. With certain kinds of work a piece rate carefully set can be an equitable method of payment. To insure this, both worker and employer must be specifically protected — the worker from rates set too low, the employer from a sporadic and irregular output which

may result when piece work is done at the employee's convenience. The worker must secure a piece rate sufficient to offer an adequate weekly wage if a reasonable speed is attained. The employer is justified in demanding that finished work be forthcoming with a regularity known in advance sufficiently to enable work to be routed through the factory in a systematic fashion and delivered promptly as ordered. This end would be secured if amounts of output were jointly agreed to.

If the job analysis be properly made, so that the achievement of the worker week in and week out can be checked against a fair expectation, weekly wage payment probably offers the most generally satisfactory method of pay, when everything is taken into account. This does not mean that every worker is paid the same. On the contrary, since the Determining Board has already furnished certain indications as to the relative capacity of the slow, medium and exceptional worker, the Wage Board has at hand a useful gauge in helping it to decide what different weekly earnings it will give for different amounts of output at each job.

The important point is, and this corresponds with the most successful prevailing practice, that the unit of time taken to judge the worker's achievement and capacity must be a relatively long unit, which admits of a recognized fluctuation in a person's work from hour to hour and day to day. If the work of an employee is averaged over a given period from adequate production records, there can be little dispute whether he had over that period turned out an amount of output agreed to as reasonable for those of a certain degree of skill.

All this reenforces our point as to the necessity of the workers' participation in settling what will constitute fair rates. It may be urged that were the rate fairly

set, no need for the worker's voice in the matter would arise. But what is "fair" is precisely the question in dispute. Moreover, in the long run no one can be relied upon to have perpetual concern for anybody's interest but the person himself. There is nothing invidious about this. It is a fact. And it is decidedly characteristic of the best human nature that we know. It simply means that no one dares, or should dare, to speak finally for another in matters closely relating to that other's well-being. The "fairness" of wage divisions is dependent upon all interests receiving equal consideration.

The participation of the workers as a whole in the decision as to rates and amounts of earnings is the final safeguarding provision, since under fair conditions no one is in better position to judge of a man's attitude toward his work and his success at it than those among whom he works. The amount that goes to one group of workers will also limit by so much the amount available for the others. There are therefore in several directions checks and balances upon the process of distributing earnings.

It is interesting to consider that in addition to giving adequate recognition to the worker's claim for a voice in dividing earnings, this method offers the only real protection to the business administrator. By the presence of representatives of other interests than those responsible for immediate output, he is almost automatically prevented from trying to gain a short time advantage in these matters, as against the really more valuable long time advantage which a policy of human conservation would afford.

To return now to the question of payment for risk, it is seen to be a difficult one from the point of view here established. But that a more representative control in

industry would mean an ignoring of the risk element is unlikely. It cannot be ignored. But it still remains to decide who will be asked or allowed to assume industrial risks. This must be the subject of another discussion. We can be sure, however, that under more widely distributed control the reward to risk takers will tend to approximate more nearly the risks which the facts of a given industry show that the enterprisers assume. For some time to come, of course, the distribution of net surplus will remain with boards of directors representing predominantly the capital owners. But how much surplus will be accumulated, and whether it will be used for extra dividends or stock dividends, is a matter of vital importance not only to the owners but to the workers and consumers. And these groups are destined to take a hand in influencing the results if any fairer distribution is to take place.

The advantages of the method here proposed for dividing the net earnings of a business may be summed up as follows:

- It automatically gives the workers and the public the protection which comes from knowledge of expenses, of gross earnings, and of the residuum.
- It tends to make individual earnings more nearly correspond to the worker's interest and effort.
- It makes participation in the control of industry not simply a "right" but an arduous responsibility of workers and consumers.
- It protects the employer from the temptation to false economy in low labor costs.
- It tends to give to owners of capital only as much as it is necessary to pay to get capital; since it states separately the costs of managerial ability, risk and capital *per se*.

All this proposes to introduce into the financial aspects of the discussion many considerations which are not current practice in any but public service corporations — some not even existent there. In public utilities the community has come to see the logic of publicity and limited dividends, in order that it be in a position to decide the merits of increases in capitalization, changes in rates, the justice and expediency of wage demands and the like. In exactly the same way, as the problem of the division of earnings in what we today call private industry goes before wider tribunals these relevant facts must be forthcoming. And they stand increasingly to be forthcoming on the assumption above made, that those who do the work are to participate in the residuum which is left after the other more or less fixed charges upon industry are met.

ROBERT G. VALENTINE,  
ORDWAY TEAD.